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25X1

Basic Imagery Interpretation Report

NATIONAL
PHOTOGRAPHIC
INTERPRETATION
CENTER

25X1

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HSI AN RADIO STATION HSIEN YANG
(SIAN HF COMMUNICATIONS FACILITY HSIENYANG)

25X1

[redacted]

DEPLOYED COMM/ELEC/RADAR FACILITIES

CHINA

SEPTEMBER 1969

Declass Review by NIMA/DOD

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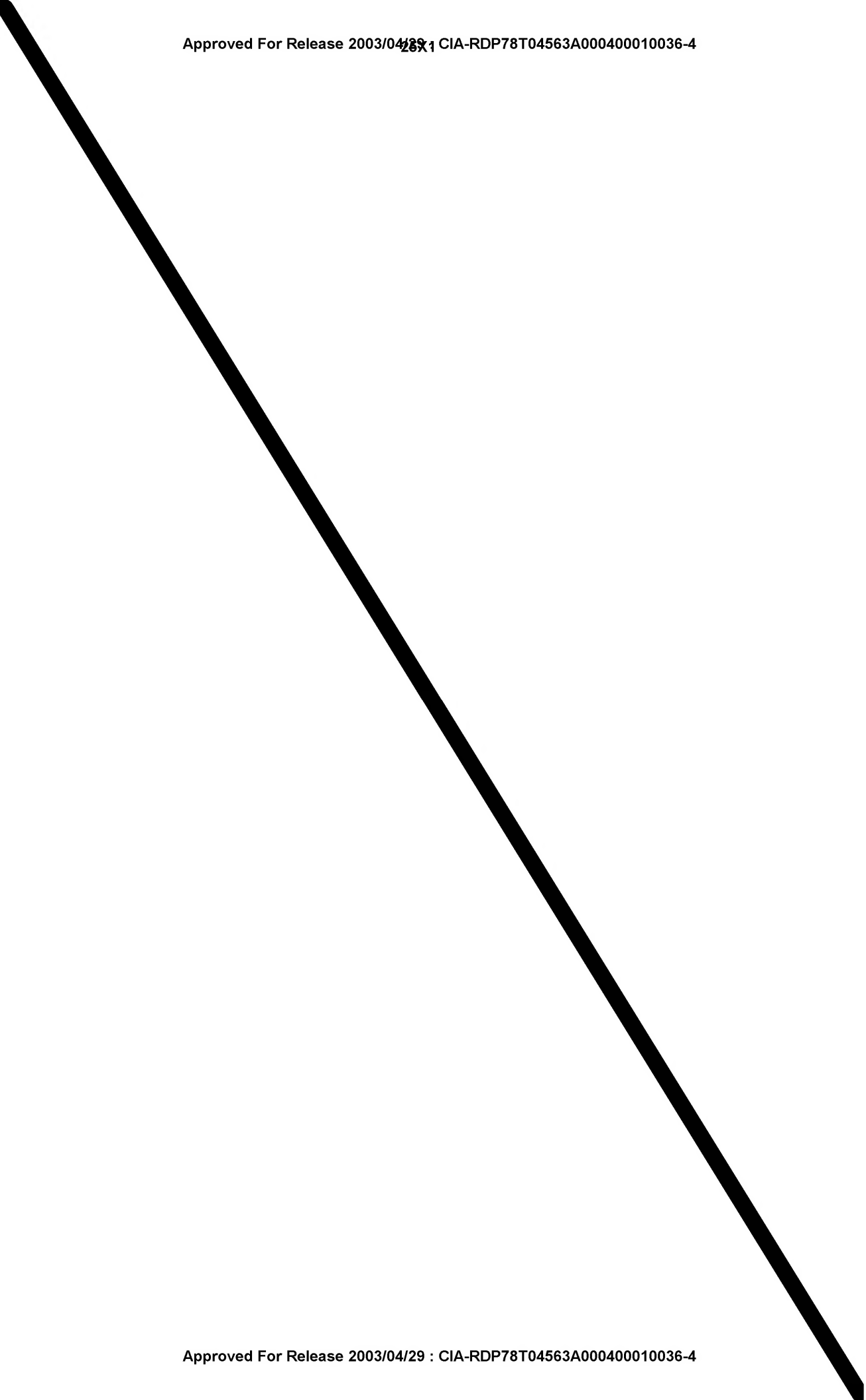

INSTALLATION OR ACTIVITY NAME		COUNTRY
Hsi-an Radio Station Hsien-yang		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	25X1
NA	34-22-31N 108-36-33E	
MAP REFERENCE		
25X1 SAC. US Air Target Chart, Series 200, Sheet M0384-15HL, Jul 68, scale 1:200,000		
25X1 (SECRET		
	NEGATION DATE (If required)	
	NA	

ABSTRACT

This report, based on high-resolution imagery, describes the Sian High Frequency (HF) Communications Facility Hsienyang (Hsi-an Radio Station Hsien-yang). It includes a location map, annotated photography, and mensuration of significant features.

The facility contains 25 lattice towers supporting 20 horizontal curtain arrays, three possible horizontal curtain arrays, an operations area, and a support area.

INTRODUCTION

The Sian HF Communications Facility Hsienyang (Figure 1) is located 5.8 nautical miles (nm) northwest of Hsienyang, China, at an elevation of 1,650 feet above sea level. The surrounding terrain is relatively flat and semimarshy, which makes it well suited for HF propagation. Electric power enters the southern end of the facility from the town of Hsienyang, terminating in a wall-enclosed power substation. The facility is fence secured and occupies 261 acres.

BASIC DESCRIPTION

Physical Features

The operations area contains three multistory transmitter buildings, two antenna patch buildings, three cooling ponds, a multistory probable control building, four support buildings, and 25 self-supporting lattice towers (Figure 2, Table 1 and Table 2--items 1-13). Each lattice tower has a crossbar mounted on top, and together, the 25 lattice towers support 20 horizontal curtain arrays (Figure 2 and Table 1). The existence of crossbars on the top of the towers indicates that each array is made up of a front and rear curtain, composed of stacked horizontal dipole antennas. One curtain serves as the emitter and the other as the reflector. Horizontal distribution feeders are located on poles close to the ground under each array. The feeders supply power to sections of the antennas and serve as part of the phasing matrix. This type of curtain array antenna system is patterned after the Soviet ''cophasal'' array and is used in facilities that serve a radio broadcast/communications function.[1]

Land appendages, added to the southwestern and northwestern corners of the facility, contain the three possible horizontal curtain arrays--two in the southwestern area and one in the northwestern area (Figure 2). The southwestern array consists of three pairs of concrete pads, each with a mast of an undetermined height. The northwestern array consists of two concrete pads, each with two masts of an undetermined height.

A support area is contiguous to the operations area on the southern side of the facility, and includes 33 identifiable structures (Figure 2 and Table 2, items 14-46).

Status and Activity

The Sian HF Communications Facility Hsienyang was first observed [redacted] 25X1
Although the facility was probably complete on this initial [redacted] photography, its 25X1
completed configuration could not be confirmed [redacted] when it appeared to be 25X1
operational. There was no discernible change in the facility [redacted] at which time 25X1
ground scarring for the southwestern appendage and construction--two large buildings and

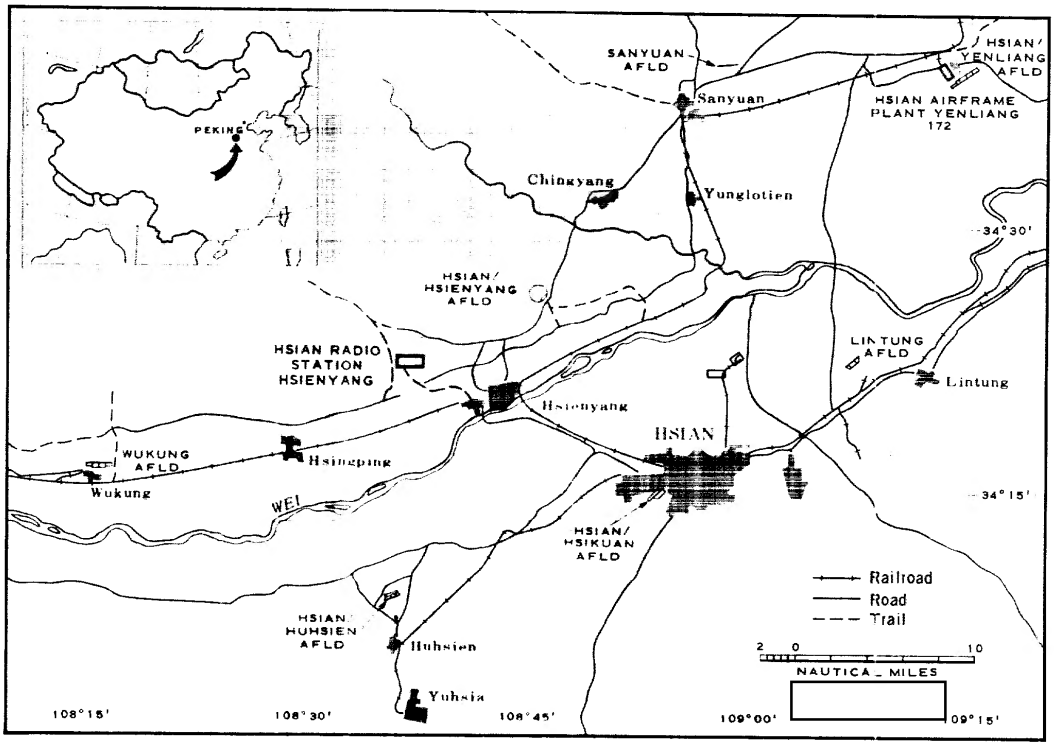

FIGURE 1. LOCATION MAP

Table 1. Details of Curtain Arrays, Sian HF Communications Facility, Hsienyang (item letters keyed to Figure 2)

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REFERENCES

25X1 [redacted]

MAPS OR CHARTS

25X1 SAC. US Air Target Chart, Series 200, Sheet M0384-15IIL, 3d ed, Jul 68, scale 1:200,000 (SECRET/ [redacted]

DOCUMENTS

1. *Antennyye Ustroystva* (Antenna Devices), G.A. Savitskiy, English translation of Ch. 9, 10, and 15, Moscow, USSR, 1961.

REQUIREMENT

NPIC Project 220208